FOREIGN AGRICULTURE

May 2, 1977

Mexican port storage facility.

- Mexico's Soybean, Rice Crops Down

Foreign Agricultural Service
U. S. DEPARTMENT OF AGRICULTURE

FOREIGN AGRICULTURE

VOL. XV • No. 18 • May 2, 1977

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Imported grain/oilseed storage facility at Mexican port of Guaymas. Mexican soybean crops were damaged by the shortage of irrigation water in 1976, and soybean imports are expected to be larger in 1977. See article beginning this page.

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Mexico's 1976 Drought Cuts Soybean, Rice Crops

By JAMES P. O'MARA
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SHORTAGES OF precipitation during the winter months of November 1975-February 1976 in the Northwest of Mexico significantly reduced summer irrigation supplies resulting in much lower production of summer irrigated crops such as soybeans and rice. Particularly hard hit were fields in the States of Sonora and Sinaloa, where commercial farming plays an important role.

The wheat crop, 90 percent of which is irrigated, was not affected as sufficient supplies of irrigation water were available for the winter growing season.

Because cotton production has declined drastically during the past two production cycles, soybeans have replaced cottonseed as the principal oilseed in the country. And since production of soybeans was reduced so drastically for 1976, imports will be significantly larger in 1977 than during the previous year. Corn imports, however, will be reduced.

The lack of dam water for summer irrigation in the Northwest caused 1976 summer-fall crop production to decline because of lower water levels in the mountain valley rivers that feed into area reservoirs. Winter rain and snow in the Sierra Madre Mountains of Chihuahua, Sonora, and Sinaloa are relied upon to increase water flow in the rivers to replace the water used for winter irrigation of wheat, safflower, and vegetables.

Data provided by the Mexican Department of Water Resources indicate that for the first 5 months of 1976, rainfall in the North Pacific region of the country was 77 percent below the average for the last 25 years. In addition, the average amount of water in the dams in the Northwest was the lowest in the country for the first 6 months of 1976.

As a result of record or near record low dam-water levels last year for the spring planting between April and June, around 200,000 hectares in Sinaloa were left unplanted, or were planted to dryland crops. Similar planting reductions were made in Sonora.

The water shortage last spring caused a decline in the 140,000 hectares programed for soybeans in Sinaloa to an actual planted area of around 40,000 hectares; rice area was reduced from 50,000 hectares to about 33,000 hectares. In Sonora, irrigated summer-crop area was reduced by some 80,000 hectares, with soybean plantings reaching just 50,000 hectares.

No rice is planted in Sonora and there remains some question whether future rice area in Sinaloa will be as large as it was during the past because rice is such a large user of water.

Little if any rain falls between March and July in the Northwest under normal circumstances; hence, should winter precipitation not occur, double crop irrigation is rarely carried out. Sinaloa and Sonora do receive some rain during August and September, but these rains are necessary to help restore water used for summer irrigation.

In terms of other areas of Mexico, however, summer-fall rainfall was abundant and particularly so in the Central regions.

Corn and dry bean production benefited from summer rains in these other areas, and imports of corn are expected to be significantly below the level of the previous year. Rains were particularly heavy during the wet season in 1976, and floods reportedly damaged cropland in the States of Guanajuato, Tamaulipas, and others. Overall, rains were decidedly beneficial, however.

EARLIER, SORGHUM IMPORTS for 1976/77 were projected to decline in relation to the previous year's, as summer-1976 production was believed to have increased over that of summer 1975, while the previous year's carryover was very large. However, recent information points to a reduction in 1976 summer production due to inclement weather and insect damage. Also, continuous rains in the State of

Tamaulipas have reduced the prospects for a good crop this winter.

While dam levels improved somewhat in the Northwest during fall 1976 as a result of normal rains and tropical storms, doubt existed whether sufficient irrigation supplies existed for extensive double cropping. Hurricane Liza, which struck the west coast of Mexico from Mazatlan to Mexicali, dropped thousands of gallons of water on the coastline with only small amounts reaching the interior where the water could have been accumulated by way of the rivers into the reservoirs. As dam water buildup usually occurs between November and February, future planting decisions depended on what transpired then.

Apart from the uncertainty of sufficient water supplies for double cropping for the 1976/77 production cycle, there were the issues of land tenure and the rising price for cotton in the international market.

Insecurity of property rights had exhibited its effect throughout the country during the past year but possibly nowhere more intensely than in the Northwest. Although the spring crop of wheat was harvested in spite of land occupations, discontent on the part of private landowners prevailed until the time when the ownership of nearly 100,000 hectares in Sonora was declared illegal by the Mexican Government.

The property rights of some of this land remain in dispute, and the resolution of the issue is contingent upon the decision of the Mexican Supreme Court.

Domestic cotton prices just prior to the peso devaluation were averaging about 76 cents per pound at the mill. Since the devaluation, prices have fluctuated between 60 and 70 cents per pound. Improved prices for cotton have led to a projected increase of cotton area for 1977/78.

The summation of the above factors has resulted both in a reduction in the area planted to wheat for the current winter growing season of about 120,000 hectares and delayed planting. The delayed plantings were principally a function of the land tenure problem.

To make matters worse, leaf rust was detected in about 125,000 hectares of the late planted wheat. Hence, as a result of reduced plantings and the introduction of the fungus, leaf rust, production for the 1977/78 marketing year is not expected to exceed 2.5 million tons.

Left, Ignacio Allende Dam in the Mexican State of Guanajuato; below, farmer in rice field; bottom left, Mexican girl making tamales of cornmeal and fish; bottom right, taking a soybean sample at Empalme, Mexico. Shortages of irrigation water last year have reduced output of some Mexican crops.

The rise in domestic wheat output has been somewhat of a success story. Increasing by 42 percent between 1973 and 1975, Mexico's wheat production was sufficient last year to meet almost all of the country's requirements.

During 1975/76, total wheat imports were negligible, compared with 832,000 tons the previous year—as a result of the increase in domestic production to 2.8 million tons in the 1974/75 production season and imports in the previous year slightly larger than required to maintain minimum stocks. Wheat imports were again expected to be negligible in 1976/77 but as a result of the delayed plantings and introduction of leaf rust, imports of about 100,000 tons are expected.

SINCE 1977/78 wheat production will be harvested this April-May, present stocks may be sufficient to meet food needs until fall 1977. However, imports of some 700,000 tons are considered possible for calendar 1977.

Encouraging wheat output for the 1975/76 planting season was the support price of $140 per ton. Currency changes have now depressed it to $100 per ton. (Dollar equivalents may not now be accurate, owing to continued peso float). The 1976 crop was already harvested before the devaluation took place. The support price was raised on November 3, 1976, by 17 percent.

Little or none of Mexico's corn crop is dependent on irrigation. In general, corn performance is a function of the precipitation received in the spring, and summer-fall production comprises about 90 percent of annual corn production. As a result of timely rains in the corn areas and increased plantings, last year's summer production was larger than the previous year's.

Production of corn for the October 1976-September 1977 crop year is projected at 9.7 million tons. The previous year it was 9.2 million tons.

The Government of Mexico is quite conscious of its large imports of corn—averaging 1.7 million tons a year over the past 3 marketing years—especially since only 5 years ago in 1971/72, Mexico was a net exporter of corn.

Because production has been more or less stable since 1971/72, while population has grown by about 3.5 percent annually, the Government, through CONASUPO—the public agency responsible for managing the supply of basic foodstuffs—raised the support price for the 1974/75 production year from $120 to $140 per ton, encouraging farmers to increase corn plantings.

After the devaluation of the peso in September 1976, the corn support price was raised by 23 percent. Since the second currency float, the support price has been equivalent to about $95-$115 per ton. However, the effect on production was minimal since the devaluation took place after the corn was in the ground for the fall harvest.

It is likely that continued corn production increases will take place only with an equivalent increase in the support price to offset higher production costs. Imports for the 1976/77 marketing year—projected at about 1 million tons—would be about 24 percent less than the previous year. About 800,000 tons of the total will likely be supplied by the United States, unless Mexico buys sizable amounts from Argentina.

Rice set a record in the summer of 1975, but output is estimated to be 35 percent lower in 1976/77, mainly because of the shortfall of irrigation water in Sinaloa for the past summer season.

Rice imports for the 1975/76 marketing year were negligible, and the Mexican Government through CONASUPO was contemplating exports of rice in early 1976. But the dry spell in the first quarter of the year brought a change in plans as the Government saw the need to maintain rice stocks in order to meet domestic demand for 1976.

Summer area was said to have been expanded in other producing States such as Campeche, Oaxaca, Guerrero, and Veracruz, but the additional acreage will likely not compensate for the losses in Sinaloa. Even so, imports are estimated to be at negligible levels once again because 1975 stocks, plus the past season's production of some 300,000 tons, are considered adequate to meet the country's requirements.

Some rice is also produced in the winter months, but it only constitutes about 8 percent of total output.

Production of sorghum continues to increase as Mexico's feed industry grows and farmers become aware of the somewhat better yields possible from dryland sorghum compared with corn. Sorghum output has risen significantly in the last 3 years and has averaged about 3.2 million tons.

Originally, production for 1976/77 was expected to be about 3.4 million tons, but recent information has placed output at about 2.9 million tons. The present winter crop, concentrated in the Northwest, has been severely damaged due to heavy rains, and hence imports of 300,000 tons may be possible before July 1, 1977.

In 1974/75 and 1975/76, sorghum production was expanded in the Bajio region in the westcentral part of Mexico's Central Plateau, where better than 50 percent of output is found. The larger producing States in the Bajio area are Guanajuato, Jalisco, and Michoacan. Another important growing area is in Tamaulipas in the lower Rio Grande Valley.

Before devaluation, the support price for the 1975/76 sorghum crop was $128 per ton, but at present it is about $90 per ton. Sorghum production is expected to climb in line with increased demand for livestock feed.

Although the planted area in Sinaloa and Sonora makes up only a relatively small part of the 24 million hectares cultivated in Mexico, the two-State region accounts for about 90 percent of annual soybean production (grown in the summer) and about 75 percent of all wheat (principally a winter crop). During the 1975 summer season this area produced around 585,000 metric tons of soybeans while output in 1976 was under 220,000 tons. Countrywide the totals were 625,000 tons in 1975/76 and an estimated 280,000 tons in 1976/77.

BECAUSE SOYBEAN plantings were reduced so markedly in the Northwest, planted area was expanded in the Tampico region of Tamaulipas. However, the heavy rains that fell over much of Central Mexico in mid-July reportedly flooded about one-sixth of the soybeans planted in and around Tampico, and fields were later replanted with different crops.

Other new areas into which soybean production can be expanded are limited largely because of wide variations in the amount of daylight and in elevation. Hence, large expansion into other areas is not expected.

Poultry and swine consume about 90 percent of Mexico's domestically produced soybean meal; the remainder goes for dairy cattle and pet rations, and for soy flour for human consumption. Consumption is showing steady growth, especially of texturized soy protein.

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Offspring of U.S. Cattle Take Honors at Paris Show

LIVING UP to the theme, "Quality Animals and Quality Feeding," the United States chalked up three firsts—two championships for the progeny of U.S. Holsteins and the premier showing in France of a U.S. Angus bull—at the 14th International Agricultural Show (Salon International de l'Agriculture) in Paris, March 6-13. At the same time, trade contacts made by feed-ingredient, artificial-insemination, and breeding-cattle industry representatives should bring in several million dollars' worth of new business this year.

Just under 1 million people attended the 8-day Salon—considered by some to be the most important livestock show in Europe—at the huge fairgrounds of the Porte de Versailles. There, a U.S. exhibit featured the Holstein-Friesian and Angus cattle, artificial insemination services, feedgrains, and soybeans of five industry groups that cooperate with the Foreign Agricultural Service in foreign market development. The participants: The American Angus Association, the Holstein-Friesian Association of America, the National Association of Animal Breeders, the American Soybean Association, and the U.S. Feed Grains Council.

Separately located was an impressive exhibit by the French Hereford Association—offshoot of the American Hereford Association and evidence of the growing importance of this breed since the first shipment of U.S. Herefords to France 10 years ago.

While results from the show are still being tallied up, preliminary figures indicate some outstanding successes, both in honors and accolades for U.S. cattle and their progeny and in new trade contacts and potential dollar sales.

For instance, the Grand Champion Female in the Salon's French-Friesian Show was the offspring of a French-Friesian dam and a U.S. Holstein bull, Pabst Ideal, which was bred by red Pabst Ideal, of Milwaukee. This is the first time that a cross of American and French Holsteins has won the championship," said Bob Heilman, marketing coordinator of the Holstein-Friesian Association of America. "We are extremely proud and pleased."

In addition, an 825-kilogram purebred Holstein bull, Luron de Coetnic, won the championship in the under-2-years classification. The bull's dam was one of the seven Holstein cattle in the U.S. exhibit and—along with the other animals—had been imported by French farmers a few years ago. All were in top condition and attracted much attention among visitors to the Salon, who were able to obtain detailed information on the cattle from the seven herdsmen sent from the farms to tend the animals.

The Holstein-Friesian Association kicked off its effort even before the show opened, when several West German buyers expressed concrete interest in purchasing 75-80 Holstein females.

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Right, some of the Holsteins on display at tht U.S. exhibit, and below, the Angus bull gets his neck scratched by Lyle Springer, representing the American Angus Association.

Left, Bruno Biseo, consultant with the Curtis Breeding Service, talks to a fair visitor at the booth of the National Association of Animal Breeders.

Import needs rise

Mixed-Feed Use Growing In Bulgaria and Romania

By MILES J. LAMBERT
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ROMANIA AND BULGARIA will continue importing grain, soybeans, and soybean meal to help supply the expanding needs of their mixed-feed industries.

Domestic supplies of these commodities are increasing moderately in the two countries, but are inadequate to assure operation of feed mills at capacity levels of operation.

The growth of mixed-feed industries in Romania and Bulgaria is an important part of the burgeoning livestock programs in the two countries. The increased supply of mixed feed will facilitate further gains in livestock production and—through better balanced rations—savings in feed use.

U.S. exports to the two countries have benefited from the growth of the mixed-feed industries and likely will benefit in the future. Bulgaria has imported moderate amounts of U.S. soybean meal, and during the past 3 years, some corn. Romania has imported substantial quantities of both feedgrains and soybean meal.

During the past 2 years, however, Romanian imports have switched away from soybean meal primarily to soybeans. A continued shift to soybean imports in both countries is likely as soybean crushing facilities are brought into operation.

The mixed-feed industries in Romania and Bulgaria have been made responsible for eliminating wastefulness in the use of concentrated feed during the 1976-80 period. The current overuse of concentrates in feeding has combined with shortcomings in management, husbandry technology, and livestock breeds to make the production of meat unprofitable in terms of overall State expenditures. Among the costs to the State have been imports of concentrated feed.

As a first step toward meeting their obligations, the mixed-feed industries—including oilseed crushing facilities—are scheduled to expand their capacities significantly during 1976-80. Plans call for higher and more stable production of grain and oilseed to supply the new capacities with domestic raw material. However, chances are slim that domestic supply will be adequate for operating the mixed-feed industry at full capacity.

Government leaders of these two centrally planned countries continue to be perplexed by the problem of profitability of livestock production. While the agricultural sector and most farms show profits in livestock production, it is unprofitable to each State's economic complex as a whole when the various costs not undertaken by farms are counted.

These costs include subsidized fertilizer and fuel inputs and part of the cost of imports of concentrated feed for use in mixed-feed sold to farms at subsidized prices. Since the Governments also have subsidized retail sales of meat while raising prodcer prices, further budget losses have resulted.

The levels of subsidy are under serious scrutiny, despite continuing large surpluses in agricultural trade and substantial hard currency earnings from the agricultural sector. Increased efficiences in livestock production spell a potential for greater savings of resources. These savings could be released for the benefit of other sectors of the economy and of domestic consumers.

ROMANIAN AND BULGARIAN consumers stand to gain directly from expanded savings in livestock production. More efficient use of domestic feedstuffs would allow increased meat availability at home as well as larger profits for the State on exports of meat.

Bulgarian per capital consumption of meat was reported at 47.7 kilograms in 1975, while for 1980, 75 kilograms is planned—a 57 percent increase. Total meat production is scheduled to be up 59 percent.

An increase of 55-63 percent is planned in Romania for the production of meat and meat products in 1960 compared with 1975's level. Official reports on per capita meat consumption are not available, but estimates based on available data show it to be clearly below the Bulgarian level.

Increased availabilities of livestock products are important to the two States in the effort to restrain inflationary pressure from building up further. Wage increases in the face of stable prices for many essentials require that more consumer goods of all types be made available. Agricultural products—especially meat—provide one area in which scope for sizable productivity increases exists.

The profitability to farms of livestock production in Romania and Bulgaria varies with the class of livestock and the type of farm. Generally speaking, hog and poultry enterprises in the socialized sector are the most profitable areas of animal raising. The most technologically advanced livestock units are found here, so it is not surprising that many production units for hogs and poultry have enviable records.

Cattle and sheep raising requires the greatest steps in modernization, both in methods and breeds. The inefficiencies recorded in these two sectors are of prime concern, since overfeeding of grains to ruminants is very wasteful of supplies.

In addition to problems with the quality of the breeding herd and the application of technology, inefficiencies occur because of shortages of bulk feed as well as transportation difficulties, which delay the arrival of needed protein and bulk feeds. Officials claim that even current domestic grain production would be sufficient for significant increases in hog and poultry meat production were it not for irrational usage by farm management.

As a means of exerting more control over feed usage on individual farms, Romania and Bulgaria have been centralizing the production and distribution of mixed-feed. The responsibility for eliminating the feed efficiency aspect of the profitability problem thereby rests on the State mixed-feed industries.

Both countries have large expansion planned for the production of mixed-feed. This includes expansion of capacity and increased production of domestic feed. Yet, there are serious discrepancies in the ability to achieve these two goals.

In Romania, mixed-feed production capacity is about 6 million tons in State mills alone. Production is about 5.5 mil-

lion tons annually. Plans call for 8-9 million tons in 1980. Capacity outside the State mills has not been reported.

Many hog and poultry complexes—the Inter-Cooperative Association and combining State farm and cooperative farm efforts—have their own plants, which sometimes more than meet their needs. Any excess production generally goes to the cooperative farms, and even some of these have small mixed-feed plants.

Fattening complexes inform State feed plants of the nutritional content of the feed on the site and the plants then decide on the farm's needs—but in accord with current standing orders and formulas from Bucharest.

A major share of inputs for the larger mixed-feed capacity will originate from domestic production. In the case of grain production, Romanian agricultural planners foresee an annual average production in 1976-80 of 20-22.4 million tons, with 23 million tons in 1980. The 1971-75 average was 14.8 million tons, with a high of 16.9 million tons in 1972.

FOR 1976 ALONE, a goal of 20.8 million tons was planned, including 7.2 million tons of wheat and almost 12 million tons of corn. USDA preliminary data, based on Romanian statements, show a record 19.8 million tons, including 11.7 million tons for corn and 6.7 million tons for wheat. These figures represent surprising yield increases, and the corn figure, at least, may include substantial moisture content. Sustained performance at this level appears improbable.

In oilseeds, Romanian plans for 1980 call for 1.1 million tons of sunflowerseed and 700,000 tons of soybeans, with 5-year averages of 1-1.1 million and 540,000-580,000 tons, respectively, during 1976-80. In 1972, Romania produced an 850,000-ton sunflowerseed crop, and officials believe that suflowerseeds have great potential yield increases. Based on this belief, plans for 1980 include sunflower area decreases. The Government hopes that sunflowerseed oil exports, which averaged 142,000 tons in 1971-75, will be maintained.

Soybeans have been a significant crop in Romania for some time. Area and production reached 239,000 hectares and 298,000 tons, respectively, in 1974. Floods in 1975 resulted in a need to replant more than 100,000 hectares of soybeans. Soybean area was in excess of 125,000 hectares in 1976. Increases are planned for following years. The Romanians are counting on increased soybean and high-lysine corn outturns to eliminate soybean and soybean meal imports after 1980.

One problem with plans for grain and oilseed production is the limitation on area expansion. The goals produce conflicts in area allocations for sunflowers, soybeans, and corn. Almost half a million hectares, for example, would have to be shifted from sunflower and silage corn to soybeans and corn. There is no evidence that this can happen. Even if it could, yield increases for each of the three crops would have to be anywhere from 20 to 50 percent above the 1971-75 average. In short, to achieve both the soybean and corn production targets will be virtually impossible.

Above: In Romania, Simmental cows feeding. Left: In Bulgaria, technicians examine young birds in an industrialized poultry enterprise. Both countries are importing more grain, soybeans, and meal to supply the growing needs of their mixed-feed industries.

Developments in the oilseed crushing industry—subordinated to the mixed-feed industry—will be the determining factor in imports. Previously, needs were conditioned by the preponderance of sunflowerseed in total oilseed production. This proportion is now shifting, and crushing capacity is being adapted to the change.

It can be assumed that some Romanian sunflowerseed crushing capacity will continue to be used for crushing soybeans as well. This is partly a logistical necessity, since soybean production will not always be located near soybean crushing facilities. (Unlike Bulgaria, Romania's soybean production is not geographically concentrated.) This prospect will diminish as output of sunflowerseed increases and as soybean crushing facilities proliferate.

Romania recently has installed a 100,000-ton-capacity soybean crushing

facility near Bucharest, and three more of unknown capacity were planned for 1975/76.

With expectations of a 700,000-ton soybean crop in 1980—equivalent to planned soybean meal requirements—it is possible that crushing capacity will not meet planned production. In that case, there could be a continued need for imported meal, as well as some exports of soybeans.

However, as indicated earlier, the greater likelihood is that production will fall considerably short of crushing capacity and that the bulk of Romanian imports from the soybean complex will be soybeans.

This prospect contrasts sharply with the situation thus far, in which soybean imports have been small. About 20,000 tons a year have been imported in the 1970's, mostly from the People's Republic of China (PRC), except in 1973 and 1975, when the United States was the supplier.

In calendar 1976, U.S. CCC credit, idled crushing capacity, promises of greater supplies of edible vegetable oil and margarine to Romanian consumers, and hopes for continued sunflowerseed oil exports brought U.S. sales of soybeans to Romania up to over 228,000 tons.

Bulgaria's mixed feed industry produced about 2.6 million tons of mixed feed in 1975, compared with 2.3 million tons in 1974. About 1 million tons more were produced by mixed-feed units belonging to farms. By 1977, the mixed feed industry is to supply 100 percent of the planned needs of the social sector, and by 1980, those of the entire agricultural sector. At that time, production is to total about 5.2 million tons, of which about 10 percent is to be soybean meal.

Bulgarian grain production averaged 7.3 million tons during 1971-75, with a record of 8.1 million tons in 1972. Output is planned to increase to 11 million tons by 1980, with an overall 5-year average of 9.3-9.6 million tons. The share of corn and barley is to increase, while wheat production will stabilize at about 2.9 million tons.

Considering barley production of 1.7 million tons and corn production of 3 million tons in 1975, it is reasonable to estimate that about 2.2-2.5 million and 5.2-5.5 million tons of winter barley and corn, respectively, are planned for 1980. USDA estimates based on official Bulgarian statements, are for about 8 million tons of grain for 1976, while Bulgarian plans called for 8.7 million tons.

Exact targets for Bulgarian sunflowerseed and soybean production are not known. Sunflower area during 1976-80 will be below the 1971-75 average, although yield increases are anticipated to compensate. Soybean area, on the other hand, will be greatly augmented, making it a basic crop.

From 19,200 hectares in 1973, soybeans moved onto about 37,000 hectares in 1975 and to a reported 58,000 hectares in 1976. Official yield and production data are not available. Production in 1975 is estimated at about 80,000 tons, or a yield of about 22 quintals per hectare. Limitations on area expansion are a problem in Bulgaria, as in Romania.

A 100,000-hectare soybean project is expected to be operating by 1980 under the supervision of a U.S. firm. That area will develop from progressively larger tracts of land and is likely to supply virtually the entire crop in 1980. The project reportedly involves conditionally guaranteed yields of 35 quintals per hectare, an unlikely 62 percent increase over 1975's estimated yield.

The first crushing facility in Bulgaria geared specifically to soybeans is now being planned for 1976-80. A 330,000-ton operation is to be built in Veliko Turnovo district as part of the soybean project undertaken by the U.S. firm. It would process virtually all of the production from the project.

In Bulgaria, the crucial factor is that

ROMANIA AND BULGARIA: GRAIN PRODUCTION AND TRADE, CALENDAR 1971-76

[In 1,000 metric tons]

Country and year	Production[1]	Exports	Imports[2]	Imports from U.S.[3]
Romania:				
1971	14,530	704	[4]366	334
1972	16,912	902	[4] 29	29
1973	13,810	1,128	[4]212	102
1974	13,550	713	[4]784	491
1975	15,266	1,163	([5])	551
1976	[6]19,794	([5])	([5])	666
Bulgaria:				
1971	7,060	557	191	0
1972	8,139	834	0	0
1973	7,323	367	136	0
1974	6,319	149	637	64
1975	[7]7,346	195	653	115
1976	[8]7,870	([5])	([5])	246

[1] Includes all grains. [2] Excludes rice imports. [3] U.S. data. [4] ERS estimate based on date from exporters. [5] Not available. [6] Preliminary data [7] Includes ERS estimate for rice. [8] ERS estimate. Source: Country data, except as indicated.

ROMANIA AND BULGARIA: OILSEED MEAL AND SOYBEAN MEAL IMPORTS, CALENDAR 1971-76

[In 1,000 metric tons]

Country and year	Total oilseed meal imports	Soybean meal	From U.S.	From Brazil
Romania:				
1971	(56.7)	[1] 51.2	(0)	(51.2)
1972	(117.4)	[1]116.9	(52)	(27.9)
1973	(218.4)	[1]214.9	(146.8)	(48.8)
1974	(229.7)	[1]226.2	(184)	(34)
1975	(270)	[1]268	(100)	(168)
1976	(305)	(300)	(170)	(125)
Bulgaria:				
1971	137	[1] 61.9	(10)	(46.5)
1972	179	[1] 88.4	(0)	(80.5)
1973	170	[1] 99.3	(0)	(97.2)
1974	302	[2]228	(16)	(200)
1975	218	[2]178	(24)	(145)
1976	(210)	(160)	(11)	(130)

[1] Unofficial data (i.e., not from statistical yearbooks) as reported by importers.

[2] FAO Trade Yearbook. Figures in parentheses are ERS estimated based on exporter data, transshipments, and unofficial data from importers. Source: Based on data prepared for unpublished ERS study.

soybean meal usage of about 500,000 tons planned for 1980 cannot be achieved even if domestic soybean production plans are realized. Meal imports are almost certain, even under the best of circumstances. As it is, soybean production plans for 1980 are not likely to utilize capacity fully here either—again necessitating imports of soybeans.

It can be expected that Romania and Bulgaria will not reach their targets for soybean production and self-sufficiency in vegetable protein. While they will remain net exporters of grain in most years, their corn production targets will not be met. There may be years when adverse weather will prevent a favorable trade position in either grains or the soybean complex.

Until the president, U.S. agricultural exports have benefited from the unresolved problems in the Romanian and Bulgarian livestock sectors (see tables). Although both countries are normally net grain exporters, grain has been imported regularly. The U.S. share in Romanian grain imports has been large, while in Bulgaria it was not important until 1975 and 1976.

In the case of both countries, it must be noted that shortfalls between grain production plans and actual outturns are never covered by imports. Plans for livestock numbers are simply adjusted to realities. Nevertheless, Romania and Bulgaria will continue to import grains sporadically, not only because of occasional poor harvests but also to cover seasonal shortages between harvests of the several grains. In addition, Romania sometimes conducts import-export operations to take advantage of world price fluctuations.

As with grains, Romania up to now has filled most of its oilseed meal needs with U.S. soybean meal—virtually the only type of oilseed meal that Romania imports.

In contrast, while soybean meal imports have grown steadily as a percentage of Bulgarian oilseed meal imports, the United States has not benefited greatly from this increase in usage—a situation unique in Eastern Europe—mostly because of trade reciprocity agreements with Brazil.

For the future in the soybean complex, the shortfall between production and crushing capacity is likely to cause some shift from soybean meal imports toward soybean imports in Romania and Bulgaria during the 1976-80 period.

Brazilian Agriculture To Help Meet Fuel Needs

By EDMOND MISSIAEN
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BRAZIL, in an attempt to cut its petroleum import bill, has set up a long-range program to mix anhydrous alcohol from sugarcane or manioc (cassava) with gasoline.

The program, begun in 1975, foresees production by the early 1980's of 4 billion liters of alcohol per year, which would supply 20 percent of Brazil's estimated gasoline needs.

Brazil's decision to develop alcohol for fuel means that a significant part of the country's agricultural development efforts are to be directed toward production of farm products for fuel, rather than for food or fiber. Land used to grow sugarcane and manioc for alcohol will not be available for food and export crops such as soybeans, corn, and rice.

Close to 900,000 hectares of Brazil's total cropland area of about 45 million hectares will be needed to produce by the early 1980's the volume of alcohol needed for a 1:5 alcohol/gasoline mixture.

Such a ratio of alcohol to gasoline would require no adjustments to motor vehicle engines and would permit Brazil to reduce its petroleum imports by about 10 percent, resulting in a saving of about $400 million annually in foreign exchange.

Brazil also is considering the possibility of using a 1:1 ratio of alcohol to gasoline in diesel trucks and buses, and all-alcohol fuel in passenger cars. Although such changes would require major modifications to existing vehicle engines, new alcohol-powered cars reportedly could be built for about the same cost as gasoline-powered vehicles.

To demonstrate the feasibility of vehicles powered entirely by alcohol, Brazil's Aerospace Technical Center recently converted three cars to run solely on alcohol and sent them on an 8,000-kilometer trip from São Paulo State to Manaus (on the Amazon) and back.

Alcohol also is being considered as fuel for electric power plants.

The main instrument for achieving the goals of the alcohol-as-fuel program is special financing. Industrial financing (for establishment, expansion, or modernization of distilleries) is available for 80 percent of the total investment (90 percent in the north and northeast) for a maximum period of 12 years, with 3 years of grace, at interest rates of 17 percent (15 percent in the north and northeast).

For farm projects, 100 percent of the investment cost can be financed for up to 5 years, with 2 years of grace, at 7 percent per year. These interest rates

Mechanized loading of harvested sugarcane in northern Paraná, Brazil.

Cutting sugarcane in northern Paraná.

are highly negative (less than the rate of inflation) in an economy that has a high rate of inflation (46 percent in 1976).

Project proposals are presented for approval to the National Alcohol Commission. After this approval has been obtained, entrepreneurs have up to 180 days to apply for bank loans.

As of December 22, 1976, 83 projects for construction of alcohol distilleries had been approved by the National Alcohol Commission, and 15 of these had obtained financing by December 24. Another 95 agricultural projects, for the planting of sugarcane, also had been approved by that date.

The 83 distillery projects are expected to have an annual productive capacity of 1.9 billion liters of alcohol, or 48 percent of the Government's goal of 4 billion liters by 1980.

Five of the planned facilities will distill alcohol from manioc, one will use babassu nuts as raw materials, and the remainder will use sugarcane. Some of the sugarcane projects envision the establishment of distilleries annexed to established sugar mills, while others will be independent.

Of the 83 approved projects, 27 are in the northeast, one is in the north (Amazon) area, and the remaining 55 are in the more developed center-south part of the country.

Thirty-three of the projects are to be in São Paulo State, which produces about half of Brazil's sugar. Another 22 projects are to be located in the traditional sugar-producing States of Pernambuco, Alagoas, and Rio de Janeiro.

There are two basic types of alcohol —anhydrous and hydrous. Only the former is used for mixing with gasoline, and both are inputs for various chemical manufacturing processes. Both are produced in Brazil, and are manufactured almost entirely from residual molasses resulting from sugar refining.

The residual molasses resulting from production of 1 metric ton of crystal sugar is sufficient to produce, on average, 117 liters of alcohol. Stated another way, 1 ton of sugarcane will produce 92 kilograms of sugar plus 10.7 liters of alcohol.

Alcohol also can be extracted directly from sugar—i.e., the cane can be used to make only alcohol and no sugar. In this process, 67 liters of alcohol can be extracted from 1 metric ton of sugarcane.

Most of the hoped-for expansion in alcohol production will come from direct conversion of sugarcane to alcohol. In the past, the direct conversion of sugarcane to alcohol was used only when there was surplus sugarcane production. The manufacture of alcohol served as an escape valve.

Alcohol also can be extracted from other plants. The most apt for Brazil are manioc, sorghum, sweet potato, and babassu. Apart from sugarcane, the most important future source of alcohol in Brazil is expected to be manioc.

THE COSTS OF producing alcohol from manioc and sugarcane are about the same. The manufacturing process for manioc is more complicated, however, and there is no pool of experienced entrepreneurs in manioc processing, as there is for sugarcane.

Many of the hopes for reducing regional disparities and reducing income inequalities—as outlined in the Government goals for the expansion program—are based on the expectation that production of manioc for alcohol will be expanded in the poorer northeast, north, and center-west regions.

Brazil produces 700-750 million liters of alcohol per year, of which 200-300 million liters are anhydrous alcohol, used for mixing with gasoline.

Exports of alcohol have risen from 7 million liters in 1970 to 64 million liters, earning $17 million, in 1975.

About three-quarters of Brazil's alcohol is produced in the center-south area. Sugar mills in the northeast distill less of their residual molasses into alcohol. Molasses exports, mostly from the northeast, have been growing in recent years, jumping in value from 3.5 million in 1970 to $41 million in 1976.

Most of the alcohol for mixing with gasoline is produced and consumed in São Paulo State, which accounts for 40 percent of Brazil's total gasoline consumption. The proportion of alcohol in gasoline (average for all Brazil) has ranged from 2 to 3.5 percent in recent years.

If Brazil reaches its goal of 4 billion liters of alcohol per year for mixing with gasoline by the early 1980's, it is likely that 500 million liters will be distilled from residual molasses processed in existing capacity; 3 billion liters will be distilled directly from sugarcane; and 500 million liters will be distilled from manioc.

The additional agricultural capacity required to produce this alcohol can be calculated as follows: For sugar, an alcohol extraction rate of 67 liters per ton would require 44.8 million tons of cane from 747,000 hectares. For manioc, an alcohol extraction rate of 180 liters per ton would require 2.78 million tons of the commodity from 139,000 hectares.

Total sugarcane area (for sugar) is now about 1.7 million hectares, and area in manioc is 2.1 million hectares.

If Brazil were to attempt to substitute alcohol completely for gasoline, the demand for alcohol would approach 25 billion liters per year by the mid 1980's. Members of the National Alcohol Commission believe that as alcohol production approaches that level, a much higher proportion will come from manioc than is the case with currently approved projects.

Thus a production level of 25 billion liters of alcohol per year (half from sugarcane and half from manioc—would require about 187 million tons of sugarcane grown on 3.1 million hectares plus about 69 million tons of manioc grown on 3.5 million hectares —6.6 million hectares out of Brazil's total current cropped area of about 45 million hectares.

Paris Livestock Show

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These buyers, representing a German artificial insemination center, will visit the United States this month to select animals from individual U.S. breeders and make sure they meet U.S. and German regulations.

Heilman reports that at the show itself he met with representatives from over 16 different nations and that some $2 million in sales of U.S. cattle may result during the next 12 months.

Among contacts made by Heilman were buyers from Switzerland, Morocco, the United Kingdom, Portugal, Italy, Belgium, the Netherlands, Spain, West Germany, Ivory Coast, Syria, and Egypt.

Also attracting much attention was Gallagher's Pioneer—9-month, 362-kilogram offspring of the 1975 U.S. champion Angus. The young bull, after undergoing extensive quarantine and testing required by French health authorities, claimed the distinction of being the first U.S. Angus ever shown in a French livestock exhibition.

Publicity generated by the bull's presence attracted a number of breeders to the U.S. exhibit, whence they were taken to the bull's special quarters. By then, the bull's earlier friskiness had given way to near-placidity and appreciation of having his shoulders scratched.

A German buyer purchased the bull for over $6,000. But the ultimate hope of his first owner, Jerome Brody, and of Lyle Springer, representing the American Angus Association, is to establish the Angus breed in France—as was done with the Hereford breed a few years ago.

As one of the leading European producers of beef, France already has begun shifting from the dual-purpose cattle traditional in Europe to specialized beef breeds, and it is expected to continue this trend in coming years.

The three participating organizations of the National Association of Animal Breeders also enjoyed good results. One of the groups, for instance, reported that $30,000 in possible new business was generated at the show, while followup sales during the next 7 months could reach $200,000.

The U.S. Feed Grains Council (USFGC) and the American Soybean Association (ASA) reported several new trade contacts that should enhance sales of U.S. feedgrains and soybeans to France in the future.

USFGC alone compiled a list of about 60 contacts deemed important enough to follow up as part of its plans for establishing feedlots and other feeding activities.

"We're expecting U.S. sales of feedgrains to France and some other European countries to rise this year," reported Roger Boiry, a consultant with the Council, who pointed out that the country has had 3 years of disappointing corn production. "Last year's drought was particularly rough on French corn production, and we expect France to import almost 2 million metric tons of corn in 1976/77, compared with average imports of 300,000-400,000 tons." About 1.5 million tons can be expected to come from the United States to account for most of the gain anticipated for U.S. farm sales to France this year. Currently, those sales are estimated at $700 million, compared with $459 million in 1976.

ASA likewise received a number of inquiries that it will pursue. Its big task currently is to hold onto the French soybean market—still one of the top 10 U.S. markets for soybeans and products—in the face of intensive competition from Brazil.

Preliminary estimates by Wayne Sharp, U.S. Agricultural Attaché in Paris, put French imports of soybeans in the 1976/77 marketing year (Sept.-Aug. for beans, Oct.-Sept. for meal) at 700,000 metric tons and those of meal at 1.5 million. Despite Brazil's increasing presence in the French soybean market, U.S. sales should amount to 520,000 tons of beans and 750,000 of meal, compared with 272,000 and 762,000 in the 1975/76 marketing year. In addition to Brazil's growing influence, France's infant soybean industry poses a latent threat to U.S. soybean sales because of the country's determination to expand output. However, Warren Gerber, program manager of ASA, said that the country so far has failed to meet its production goals. "French farmers," he added, "are accustomed to the U.S. product and are confident of its quality performance. We intend to see that they continue to be."

The U.S. exhibit was one of eight sponsored by foreign trade groups and governments participating in the Paris show. Other countries represented in the international section were the United Kingdom, the Netherlands, Italy, Australia, West Germany, Switzerland, and Belgium. —BEVERLY HORSLEY, FAS

$80 Million Export Credit Approved for Portugal

An $80 million line of CCC credit to finance export sales of U.S. wheat, corn, and grain sorghum to Portugal topped the list of credits approved during March 14-April 8 by the CCC Export Credit Sales Program.

The authorization for Portugal includes $12.7 million worth of wheat, $47.2 million worth of corn, and $20.1 million worth of grain sorghum. A $1.1 million line of credit previously authorized to finance sales of U.S. dairy breeding cattle to Portugal has been extended 5 months to August 31.

Other export credits and extensions of existing credits include:

Philippines—A $10 million line of CCC credit for financing export sales of about 2,270 metric tons of U.S. tobacco and an $8.5 million line to finance export sales of about 75,000 tons of U.S. corn and/or grain sorghum. A $10 million line of credit for financing export sales of U.S. tobacco has been extended 3 months to June 30.

Korea—A $4 million line of credit to finance sales of U.S. tallow previously authorized has been extended 3 months to June 30.

New Zealand—A $1 million line of credit to finance export sales of about 227 tons of U.S. tobacco has been extended to November 30.

—Office of the General Sales Manager

EC Amends Butter Rules

Because rumors persist that the USSR is interested in further low-cost imports from European Community (EC) intervention stocks of butter, the EC has amended the regulations under which this surplus product can be exported. The amendment requires that all prospective butter exports be licensed, and that there be a 3-day delay between the application for a license and its expected issue.

This interim provides opportunity for review of the intended destination, and the extent of export subsidy. In a recent transaction with the USSR, about 36,000 metric tons of butter were committed at a subsidy equivalent to nearly $2.20 per kilogram, resulting in a net f.o.b. cost to the USSR of under 88 cents per kilogram. The butter was acquird by EC intervention agencies at costs as high as $3.25 per kilogram.

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Mexico's 1976 Drought Cuts Soybean, Rice Crops

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Because of its increasing requirements for soybeans, Mexico would like to augment production to at least 600,000 tons or more a year to avoid sizable imports of soybeans, soybean meal, and soybean oil. Monthly consumption is currently estimated at around 60,000 tons, for an annual total of 720,000 tons.

As a result of this heavy demand, soybean (or soybean equivalent) imports for the September 1976-August 1977 season are forecast at 550,000 tons. For 1975/76, imports were 133,000 tons. Reduced safflower output in the winter of 1975/76 and only a slight increase in summer (1976) production of cottonseed have increased the need for imported oilseeds, and soybeans are anticipated to fill the gap. During spring 1976 Mexico purchased 150,000 tons of soybeans from Brazil for fall delivery.

Combined production of cottonseed, soybeans, and safflower constitute nearly 80 percent of the country's total supply.

Steady rises in domestic and world **cotton** prices since the beginning of 1976 failed to encourage farmers—who remembered earlier low prices—to increase cotton plantings by more than marginal amounts. At the same time, cotton was under strong competition from wheat, corn, rice, sorghum, and dry beans, all of which—prior to the peso's devaluation—had support prices equal to or higher than world prices at the time of the cotton planting season.

In addition, cotton harvesting in recent years had been plagued by labor disagreements. Nearly all cotton is harvested by hand, and threat of strikes at harvest time was something farmers wished to avoid.

The reduced size of the cotton crop for 1975/76 resulted in cottonseed production of only about 358,000 tons, 5 percent above that of the previous season, but 59 percent below that of 1974/75. Before Mexico's domestic cottonseed production fell so dramatically, cottonseed made up about 45 percent of the total oilseed supply.

Most of the **safflower** crop is grown under irrigation, and produced in the winter. For the winter 1975/76 production cycle, ample water was available. But production declined last season by a diversion of land from safflower to winter wheat. Safflower production in 1976/77 is placed at 330,000 tons, 38 percent below the previous year's level.

The reduced safflower output and the slight rise in cottonseed production contributed to the sizable oilseed deficit in 1976/77, despite large carryover stocks of safflower from a year earlier. Safflower is produced mainly for its oil since the meal has a high fiber and a low protein content.

As is the case with cottonseed meal, the percentage of safflower meal utilized in poultry feed is small.

Mexico's only other oilseed products produced in any significant amounts are sesameseed and copra. Production of **copra**, a coconut product convertible into both an oilseed cake and oil, is the larger of the two but is not expected to increase beyond its normal 140,000 tons per year because palm tree numbers have remained relatively unchanged for the last couple of years. Copra meal is limited to cattle feeding also because of its high fiber, low protein content.

Because the 1976 **sesameseed** support price was not increased in comparison to that of the previous year, and a tax was placed on growers in the important State of Guerrero, production is expected to decline somewhat from last year's 119,000 ton volume. Also, commercial producers have lost some interest in growing sesameseed because of its high yield variability, even though exports average around 10,000 tons a year.

Correction. "Asian Sugar Producers Show Mixed Reaction to Low Prices," page 11, April 18, 1977: Line nine of the third paragraph should read, "15 U.S. cents per kilogram, which is. . . ."

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